GEOGRAPHICAL STUDY ON THE STRUCTURE BY SEXES AND AGE GROUPS IN THE PARISHES LOCATED IN THE BIRDA-MORAVIȚA PLAIN

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Abstract: The article entitled *"Geographical study on the structure by sexes and age groups in the parishes located in the Birda-Moravita Plain"* aims to present the main aspects of the consequences the lack of balance between the three structures by age may have on the social, economic and cultural development in this region. Equally useful, the quantitative indicators that have been used in the text are designed to present the evolution of the two types of structures in the studied period and the features and their influence in securing employment across the region**.**The regional system of the Plain Birda-Moravia is a territorial unit fairly homogeneous in terms of gender structure, and the slightly higher percentage of female population is mainly due to the two World Wars. However, on the age structure of the population, the major differences between the group of young people, adults or the elderly are felt in the entire regional system during the period considered in this analysis. Starting with 1930, the share of young population decreases, while the adult age group increase. But the most acute demographic risk that will affect the entire area in the near future, is the increase in percentage of the elderly group which will make it very difficult to provide local employment.

Key words: the female population rate, age pyramid, the demographic dependency rate

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THEORETICAL AND METHODOLOGICAL BASES

The analysis of the socio-economic impact evaluation on a region represents a frequently used modality in the geography of the human population. I used the Anglo-Saxon literature specialized in this field as a starting point, especially the works of Taylor, N.C., Bryan, C.H., Goodrich, C.G., Canter, Larry W, 1996, Barrow, 2000, Goodman 2004, importing these theoretical elements in the areal of the Birda Plane. The main purpose was to achieve a well-researched, pertinent study on the impact the differentia in the gender and age groups can have at a regional level. I also shown the consequences of the demographical dependency and of a quite high rate of aging.

To make my study even more solidly documented, I also used some commonly met theories in the specialized Romanian literature. A good example is the given by the works of C. Vert from 1996 and 2001. According to the opinion expressed by the author, the gender-based structure represents a fundamental element in establishing the evolution of certain demographic phenomena such as the rhythm of the natality and the intensity of the migrations. In the same time, the age groups-based structure is regarded as being as a crucial element for the organization and further development of the society. To make the presentation of the situation even more pertinent, I also used some social impact indicators such as: rates of femininity, of dependency and the aging rate of population, their role being to highlight the consequences of the prevailing aging population in the social, cultural and economic structures or a high demographic dependency rate. Equally, the use of classical methods is essential because the analysis, comparison, synthesis and mapping methods are useful tools in achieving any geographical study.

The analysis method – the detailed analysis of the specific of the population on sexes, and groups of age starting with the year 1900 untill 2006 to establish the main tendencies of the two sexes and of the age groups.Equaly an important role has the calculated analysis of some demographical indicators such as the depend ency rate of population, the aging rate, the femininity rate, the gravity of feminine population as a whole.

The comparison method – the emphasis of the main differences and similarities that can be found in the analised census to discuss the main changes that took place in the structures on sexes and aging groups.

The synthesis method – the bringing in of information concerning the structure on sexes and aging groups. In an complex assembly that refers to the geodemographical structure of population from the studied regional system.

The catrographical method – the used documents and the graphic tabels have the role to offer a cllear image concerning particularities on sexes and agin groups, the analised teritory in one or more censuses.

POPULATION BY SEXES

When studying the demographic characteristics of a region, the geodemographic structure plays a fundamental role. Analyzing the geodemographic structure, we understand the implications of certain segments of the population in the social, economic and cultural life of a region.

The population structure by sex is a major geodemographic type of structure, emphasizing therein the male and female population. The reason why the study this type of structure is important is to see how these segments of the population may influence birth rates, migration for work or local labor. Equally, knowledge about the population structure by sex is needed in order to characterize sexual dimorphism, gender balance, and to substantiate demographic policy measures based on observance of the rights of people and communities. (Vert, 2001, 118).

According to the analysis carried out at regional level, in 1900 the male population had a higher proportion than the female in all the villages (except Deta where the female share reached 51.27%). But in 1930, 2002 and 2006, the number of men decreases, the female population recording higher rates (Figure 2). Among the causes that led to these changes, we can mention the two World Wars, where a large number of men lost their lives on the battlefield, the opening

of furnaces in Reşita after 1900, which led to a significant increase in percentage of the male population, as well as the migration abroad of the male population.
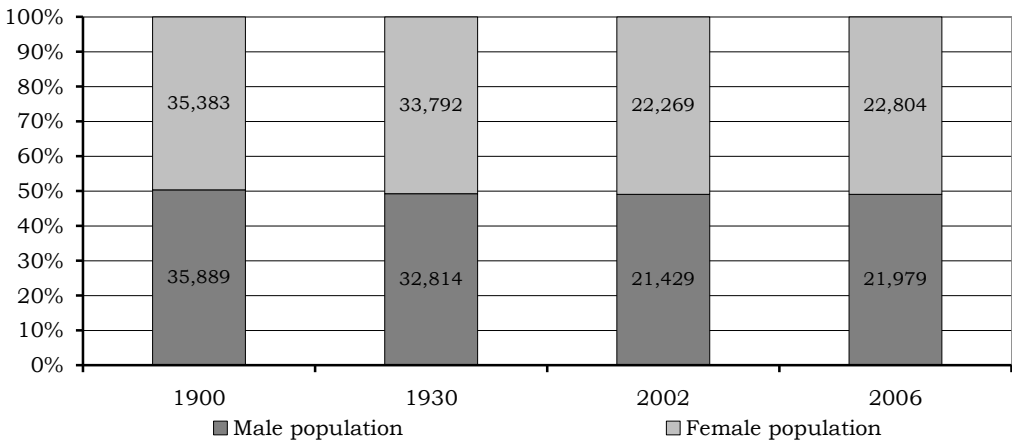

Figure 1. Population structure by sexes at regional level
in the years 1900, 1930, 2002 and 2006
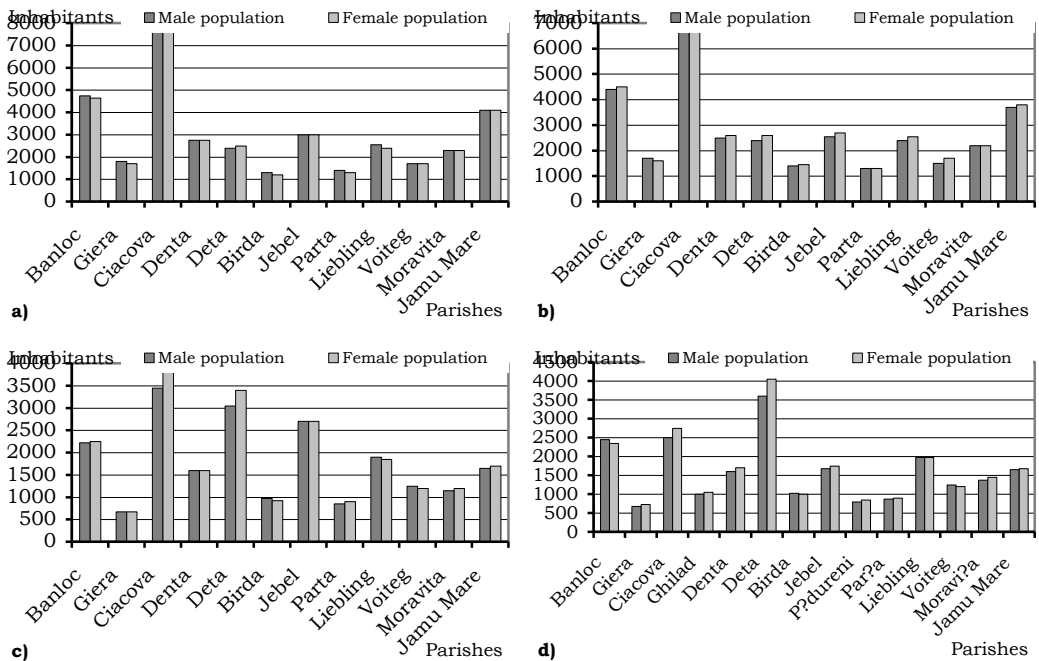(Source: Department of Statistic Timiş)

Figure 2. Population by sexes in 1900 (a) 1930 (b) 2002 (c) and 2006 (d)
(Source: Department of Statistics Timiş)

To present as an accurate statement as possible regarding any disparity between the sexes, I estimated the female population rate. Thus, in the figure we can see slight fluctuations at parish level at 1900, 1930, 2002 and 2005. If in 1900 the percentage of female population had an average between 49-50, starting

with 1930 and to 2006 there has been a significant increase in the female population up to 54%. The highest rate over time have been recorded in Deta.
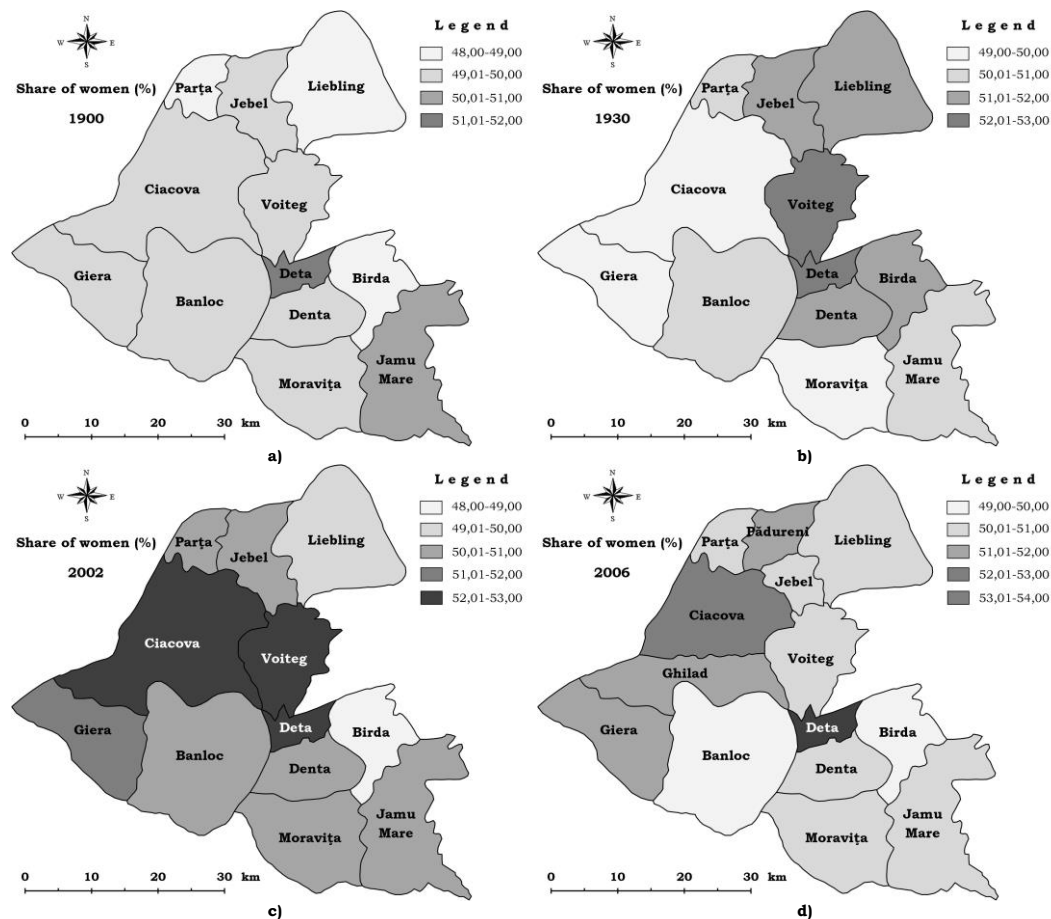

Figure 3. Share of women in the total population
from 1900 (a) 1930 (b) 2002 (c) and 2006 (d) in the Plain Birda-Moravița
(Source: Processing by data provided by the Department of Statistics Timiş)

The female population rate was calculated from the ratio between men and women, Chart 1 highlighting the relatively high rates for the entire regional system, which, with the exception of 1900, almost all villages have recorded female rate population above 100.

Table 1. Female population rate in the parishes from the Plain Birda-Moravita (%)
(Source: Department of Statistics Timiş)

Nr. crt	Parish/Town	1900	1930	2002	2006
1	Banloc	98.06	101.64	101.37	97.13
2	Birda	92.86	104.78	95.97	98.02
3	Ciacova	99.10	99.26	109.91	110.34
4	Denta	99.39	105.46	101.77	103.35
5	Deta	105.09	109.67	112.16	113.11
6	Giera	97.29	97.24	105.90	107.03
7	Ghilad	-	-	-	106.96
8	Jamu Mare	100.19	102.78	102.06	103.37
9	Jebel	98.17	106.67	100.29	103.44

Table 1 (continued)

Nr. crt	Parish/Town	1900	1930	2002	2006
10	Liebling	94.12	106.31	99.36	100.05
11	Moravița	99.32	99.36	101.94	101.42
12	Parța	95.09	101.14	103.48	100.11
13	Pădureni	-	-	-	104.39
14	Voiteg	98.04	111.08	99.17	100.08

3. POPULATION STRUCTURE BY AGE

In addition to population structure by sex, another important type of geodemographic structure is the structure by age. This element is of major importance because the planning of educational activities, the planning and forecasting of labor use, the work organizatio, the health care, and generally, the consumption depends both on the number and structure by age of the population (Vert, 2001, p 121).

The graph in Chart 4 shows the general situation of age groups in the settlements from Plain Birda-Moravia in 1900, 1930 and 2006. Thus, throughout the region there is a predominance of adult population (20-64 years old) than the younger age group (0-19 years old) and the group with those over 65 years old, which provides employment and the socio-economic development of the entire area. However, in the period studied, there was a decrease in adult and young population, along with the increasing aging population (from 5000 to 1900 and 1930 to over 7000 in 2006). These changes are due primarily to a trend in declining birth rates, a rapidly increasing mortality rate and the intensification of national and international migration. The advancement of this phenomenon in the future will result in the inability of people to ensure the necessary workforce in the region. It should be noted that the region of the Plain Birda-Moravita shows a similar trendency to the one taking place at a national level, i.e. a pronounced trendency towards the aging population and geodemographic dependency.
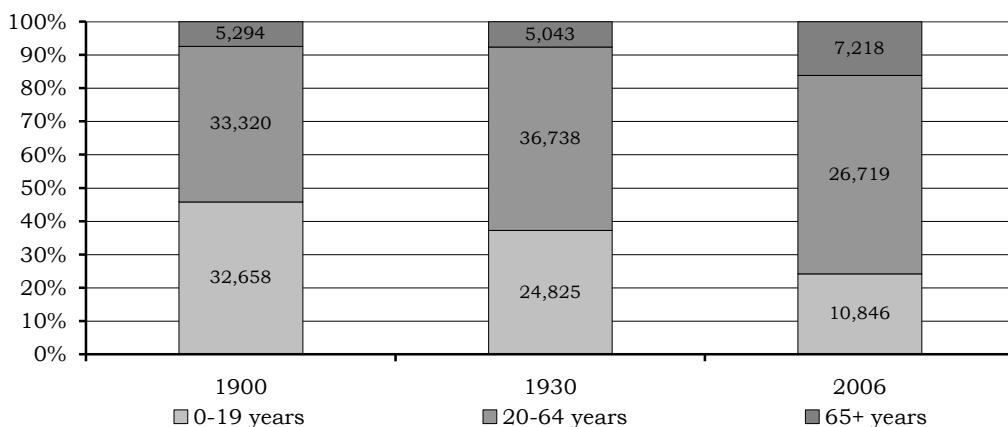

Figure 4. Population structure by age in the Censuses of 1900, 1930, 2006
(Source: Processing by data provided by the Department of Statistics Timiș)

The analyses conducted at parish level in 1900, 1930 and 2006 reveal some changes in the prevalence of a certain age:

Thus, in 1900 (Figure 5) there were parishes where the younger age group recorded the highest share (in the eastern part of Plain Birda: Denta and Birda;

in the south Moravita; in the north Liebling; in the east Deta and Jamu Mare; in the center Jebel and in the south Banloc and Giera), or an almost equal share with the adult population (Ciacova and Parta). Th rate for the adult population was slightly lower in Jamu Mare, Deta, Ciacova, while the population 65 years old showed low rates (between 5-7%) due to the high birth rate.
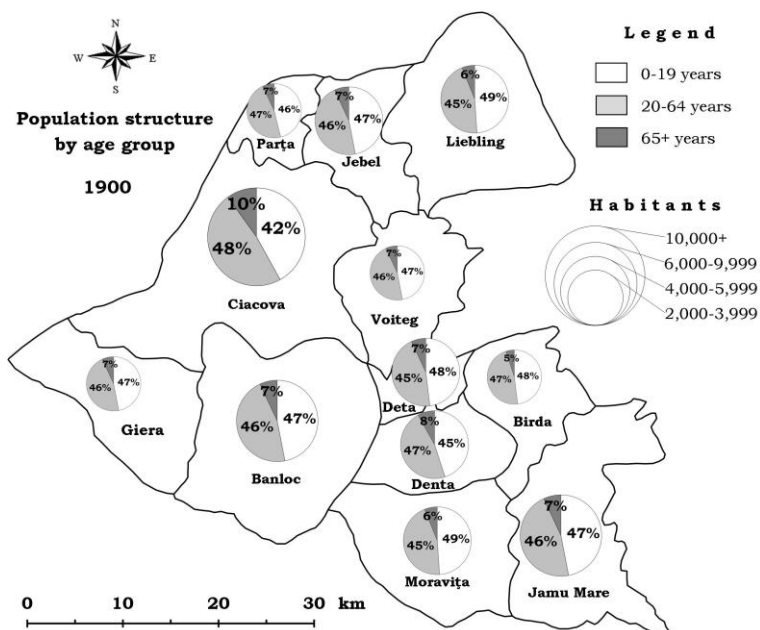

Figure 5. Population structure by age group in 1900
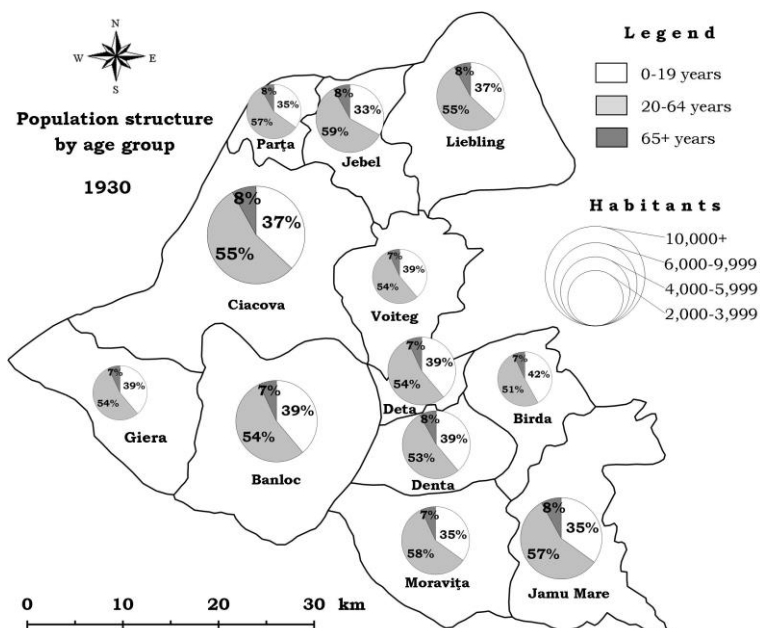(Source: Processing by data provided by the Department of Statistics Timiş)

Figure 6. Population structure by age in 1930
(Source: Processing by data provided by the Department of Statistics Timiş)

The years 1930 (Figure 6) and 2006 (Figure 7) are characterized by a continuous decrease in the share of young population and an increase in the share of the adult and old population. Thus, in 1930 all parishes recorded a majority of the adult population (rates between 51% - Birda and 59% - Jebel), followed, however, by the young population (between 33% - Jebel and 42% - Birda). In 2006 the younger age group weight reduction is increasing, the highest value recorded in Liebling common. Simultaneously with this increase the share of the adult group (between 55% - Jamu Mare and 63% - Deta) and the share of the elderly (12% - Liebling and 21% - Jamu Mare).

Thus, we find the same phenomenon of demographic aging at parish level, a phenomenon that, if increases, in future it could lead to a decline in the region's socio-economic development.
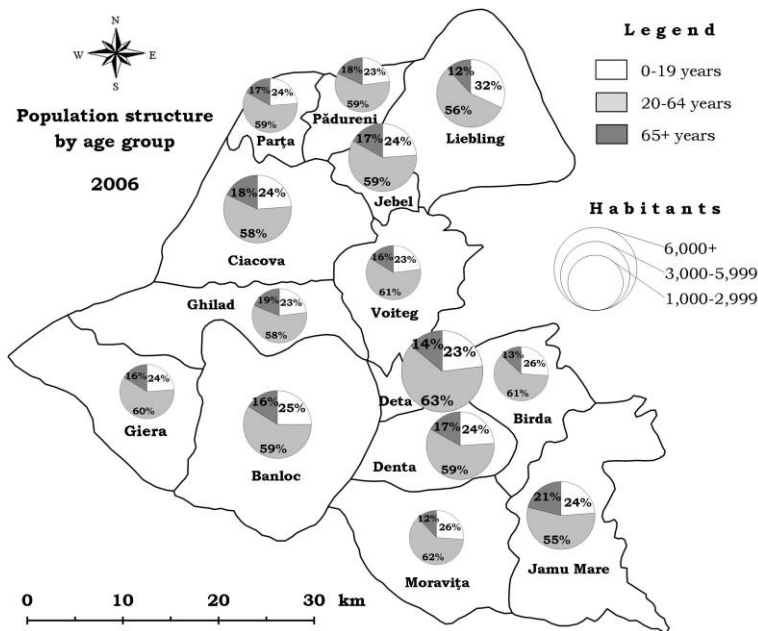

Figure 7. Population structure by age in 2006
(Source: Processing by data provided by the Department of Statistics Timiş)

The same conclusion can be drawn also from the realization of age pyramids by sex for 1930 and 2006. If we look at both interwar and postwar model, we observe a predominance of adult population for both sexes, compared to the old and young population as a result of low birth rates after abortion is declred legal and the characteristic mentality of the people from Banat to have only one child. Equally, due to the same cause, the year 2006 brought an increase in the old population, a phenomenon experienced throughout the area.

The large share of young population in 1900, and its sharp decrease and the increase of the old population, leads to the possibility of geodemographic risks in the studied area. In this respect, indicators such as the demographic dependency rate or rate of aging are of major importance when analyzing the structure by age.

The demographic dependency ratio means the pressure that the inactive population (young and old) has on the working population (adults) (Ianăş, 2011, 258), i.e. the demographic dependency expresses the ability or inability of the

adult population to provide power work required by the other two population groups. As the share of the adult population is lower than the two, the demographic dependency ratio increases. This demographic indicator is calculated from the ratio between young and old population on the one hand, and adults on the other.
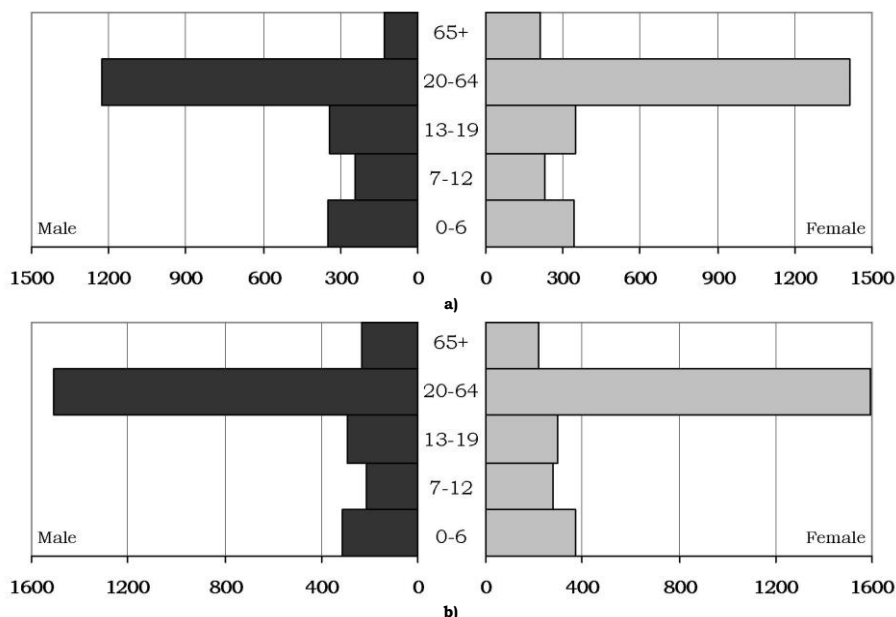

Figure 8. Age pyramid for Deta (a) and Jebel (b) (1930)
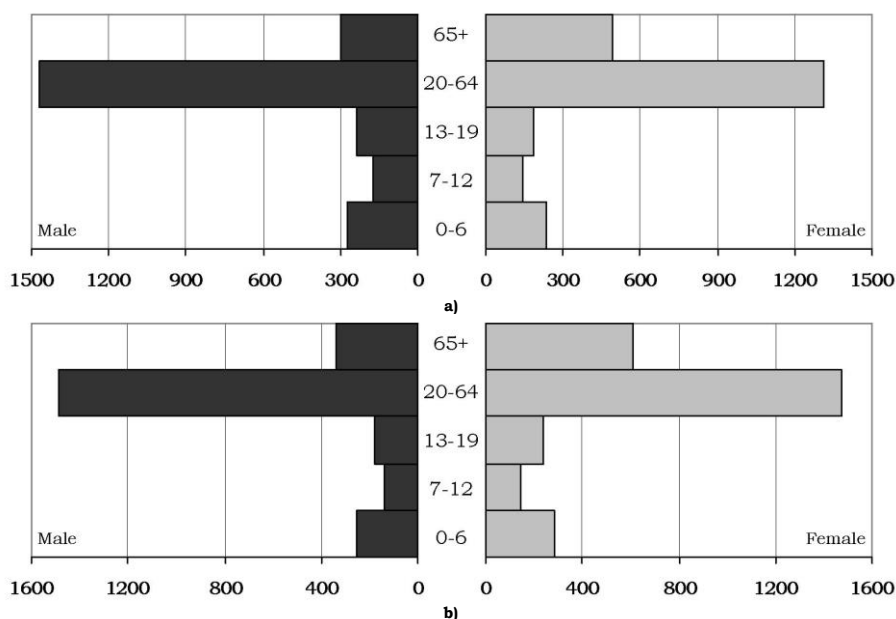(Source: Processing by data provided by the Department of Statistics Timiş)

Figure 9. Age pyramid in Banloc (a) and Ciacova (b) (2006
(Source: Processing by data provided by the Department of Statistics Timiş)

In what Plain Birda-Moravita is concerned, the demographic dependency ratio presented rates above 100 in all parishes in 1900 (the highest rate was recorded in the village of Moravita) due, primarily, to a very large proportion of young population.

The years 1930 and 2006 coincide with a decline in the dependency ratio in the entire region as a result of the increasing number of adults, compared with young and old population in 2006, there were recorded rates under 60% (Chart 2, Figure 10).

Table 2. The demographic dependency rate (%)
(Source: The Department of Statistics Timiş)

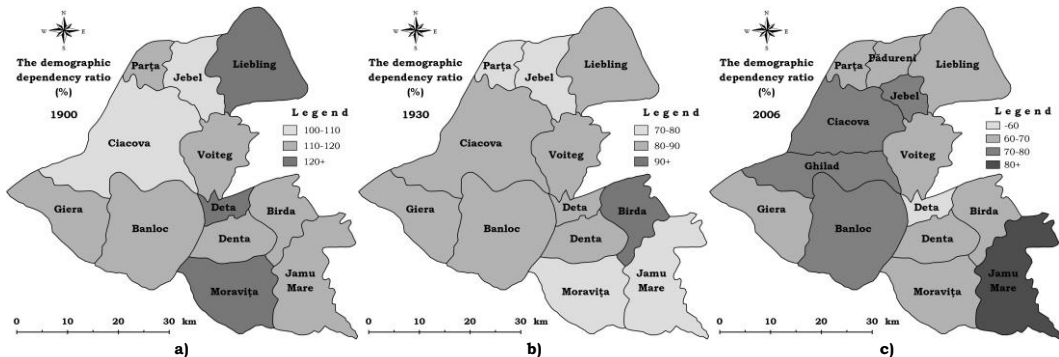| Nr. crt.	Parish/Town	1900	1930	2006
1	Banloc	115.38	83.76	71.08
2	Birda	114.95	94.69	64.69
3	Ciacova	104.99	81.30	73.23
4	Denta	111.97	86.99	66.93
5	Deta	121.69	85.88	58.60
6	Giera	119.00	85.43	66.42
7	Ghilad	-	-	71.65
8	Jamu Mare	117.91	76.70	81.76
9	Jebel	107.46	70.98	71.05
10	Liebling	123.16	83.30	67.18
11	Moraviţa	124.12	74.96	60.85
12	Parţa	112.94	75.18	70.00
13	Pădureni	-	-	69.70
14	Voiteg	115.25	83.84	63.18

Figure 10. The demographic dependency ratio in the Plain Birda- Moravita, in 1900 (a) 1930 (b) and 2006 (c)
(Source: Processing by data provided by the Department of Statistics Timiş)

The aging rate is calculated by the ratio of extreme age groups and it reflects the share of the old population in relation to adults and young. (Vert, 1995, 39).

$$\frac{P_{65+}}{P_{0\text{-}19}} \cdot 100$$

As for the Plain Birda-Moraviţa, there was a significant increase in the rate of the aging population, particularly in the postwar period (2006) from the prewar and interwar periods, when all the villages showed rates below 0.42. (The highest rates were recorded in 1900 in Denta and Jebel -0.16 and in 1930 in Jebel -0.25, Liebling and Parta 0.22). But due to the reasons already presented

and owing to increased migration, nationally or internationally, all the villages in the Plain Birda-Moravita showed rates exceeding the threshold of 0.42 (rates below 50 being recorded in the parish of Moravia -0.47). (Chart 3, Figure 11).

Table 3. The rate of population aging (%)
(Source: Department of Statistics Timiș)

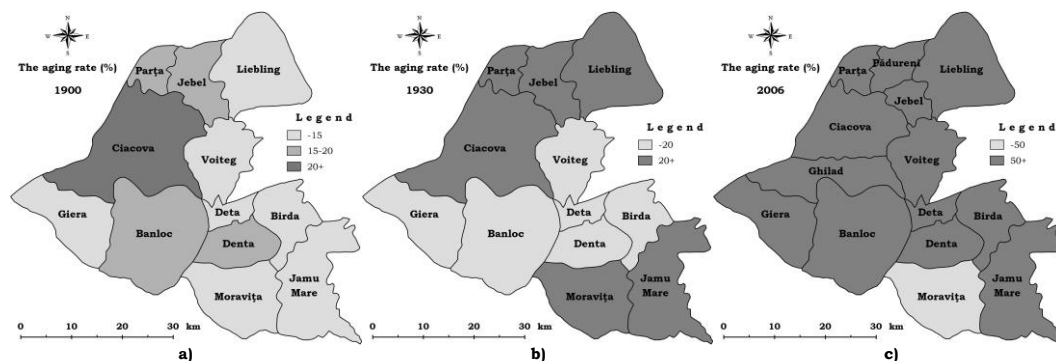| Nr. crt.	Parish/Town	1900	1930	2006
1.	Banloc	15.48	17.31	63.65
2.	Birda	11.15	15.57	51.43
3.	Ciacova	23.03	21.27	77.62
4.	Denta	16.81	20.00	70.61
5.	Deta	13.45	17.88	62.75
6.	Giera	14.69	18.15	64.28
7.	Ghilad	-	-	82.00
8.	Jamu Mare	14.20	23.01	85.53
9	Jebel	14.22	25.32	69.78
10.	Liebling	13.11	22.16	39.14
11.	Moravița	12.68	20.98	47.74
12.	Parța	15.12	22.16	71.53
13.	Pădureni	-	-	75.88
14.	Voiteg	14.22	17.95	69.10

Figure 11. The aging rate in 1900 (a) 1930 (b) and 2006 (c)
(Source: Processing by data provided by the Department of Statistics Timiș)

CONCLUSIONS

With the mentioned works of the Anglo-Saxon (Taylor, N.C., Bryan, C.H., Goodrich, C.G., Canter, Larry W, 1996, Barrow, 2000, Goodman 2004) and Romanian (Vert C.,1995/2001) authors as a starting point, we can draw some conclusions that point out the consequences the discrepancies that exist to the level of the demographic structures analysed in the article produced in the territory.

The Birda-Moravita Plain represents one of the most interesting areas from Banat in terms of structure by sex and age groups, general trend of demographic aging and the feminization of population leading to a general decline of the economy in this area. The increasing share of the maintained persons (especially pensioners) will generate a significant jump to the unemployment rate, thus endangering the region's socio-economic growth.

The performed analysis upon the level of the structure by sex and age group of the population represents the small differences between the share of male and female population. A feminization of the population has been noted in this area after the year 1900 because of the wars and the male labor migration in other regions of the country or in foreign states.

The entire region is also facing major changes in the structure by age groups. The year 1900 is distinguished by the predominance of younger age group compared to the adult and aging groups, the years 1930 and 2006 distinguishing themselves by an increase of the share adulthood and aging group. The demographic dependency ratio of the population has experienced significant changes within the studied censuses, recording high values in 1900 due to the high proportion of young people in order to decrease in 1930 and 2006, by reducing the proportion of the maintained population and increasing the share of the adult age group.

As a consequence of demographic trends specific to the area, the studied region is distinguished by the rate of aging increasing since 1930 and ending with 2006, fapt care va duce la diminuarea posibilitatii de ocupare a locurilor de munca producand astfel o sub-dezvoltare a economiei la nivel regional.

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